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AUTHOR Rosenfeld, Rachel A.; Sorensen, Aage B.
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ABSTRACT

This paper examines differences in patterns of career mobility between women and men over a five year period (1965-1970). First, it analyzes the career mobility of the sample in order to determine to what extent differences in mobility patterns are caused by differences in the occupational distribution of men and women, rather than by sex related individual attributes. Second, it analyzes the impact of labor force participation on mobility. To compare women's and men's occupational mobility, the report uses data from the 1970 Public Use Sample 1/100 (5 percent) state sample. In the case of intragenerational occupational mobility it is found that much of the association between location within the occupational structure in 1965 and 1970 can be explained by a mobility regime which differs little by sex. However, patterns of mobility into and out of the labor force do vary by sex, even when differences between men and women in their work patterns are taken into account. (Author/AM)

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SEX DIFFERENCES IN PATTERNS OF CAREER MOBILITY

Rachel A. Rosenfeld and Aage B. Sørensen

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Sex Differences In Patterns Of Career Mobility

Rachel A. Rosenfeld
Department of Sociology
McGill University

and

Aage B. Sørensen
Department of Sociology
University of Wisconsin-Madison

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ABSTRACT

This paper examines differences in patterns of career mobility between women and men over a 5 year period (1965-1970) for a sample of young men and women. Most of the observed differences in mobility patterns are found to be caused by the sex segregation of the occupational structure, and not by sex related individual differences relevant for mobility. In contrast patterns of mobility into and out of the labor force did vary by sex.

Sex Differences In Patterns Of Career Mobility

That a sexual division of labor exists within the occupational structure has been well documented. Research has shown that women working outside the home tend to be concentrated in certain types of occupations, notably, clerical, retail sales, service, and semiprofessional occupations. In particular, women are found disproportionately in occupations requiring relatively high levels of education, having relatively high status, but offering relatively low pay (Baker, 1964; Oppenheimer, 1970; Treiman and Terrell, 1975b). Ferriss (1971:115) calculated that while the sex segregation of occupations has been reduced somewhat since 1900, the reduction has been counterbalanced by the faster growth of occupations in which women predominate.

Although women and men are located in different parts of the occupational structure, their socio-economic status or occupational prestige does not seem to differ markedly. There are no apparent significant differences in the effect of family background and education on attainment of occupational status (Featherman and Hauser, 1975; McClendon, 1975; Treiman and Terrell, 1975a).

Results of the status attainment process of women and men are obtained in cross-sectional studies. Comparison of occupational status at a point in time may conceal important differences in the occupational careers of men and women, since there are marked differences in their employment patterns. The question of equality of opportunity for men and women is often formulated as a question about the causes of observed differences in careers between men and women. More specifically, it is argued that women are denied the same career opportunities as men. Numerous isolated examples can be provided in

support of this argument; however, a systematic investigation of the differences in career mobility pattern between men and women is lacking. This paper presents an effort in this direction using data from the 1970 Census on occupation in 1965 and 1970.

Mobility is traditionally conceptualized as the outcome of an interplay between structural and individual characteristics; that is, mobility is seen as a question of opportunities for moves and the ability of persons to take advantage of these opportunities. This notion may be stated more precisely by writing the probability $p_{ij}^{v}(t)$, that individual v will move from (occupational) category i to category j as

$$p_{ij}^{v} = f(a_v, b_i, c_j, d_{ij}), \tag{1}$$

where the parameter a_v refers to mobility relevant characteristics of indivuduals, while the three other parameters capture different structural forces. Here b_i represents the pressure to leave occupation i as determined by the employment level in i; c_j represents the availability of jobs in category j; and d_{ij} represents the affinity or distance between i and j. (c.f. Sørensen 1975a). In general, all parameters are presumably functions of time.

The different occupational distribution of men and women will expose them to different values of the parameters b_i, c_j, and d_{ij}, and thus generate some of the observed differences in mobility patterns. Other differences will be due to forces summarized in a_v. The separation of differences in mobility patterns due to the segregation of the sexes in the occupational structure, from those due to sex related individual characteristics can be achieved using particular

specifications of the function f in equation (1). We shall use two such specifications in this paper; one is represented by the method of adjusting all frequencies for the marginals (often referred to as a Deming adjustment[1]), the other employs the statistical methodology developed by Goodman.[2]

A woman who begins her career as a nurse has a low probability of becoming a health administrator. Most nurses are women and few are men. If career mobility differences can be explained by the structural forces b_i, c_j, and d_{ij}, the mobility opportunities of women would be the same as those of men if women had the same occupations as men typicly have. Male and female nurses would then have similar career trajectories. If observed mobility differences cannot be accounted for by the differences in occupational distributions, then sex related attributes of individuals would explain the different patterns of mobility. Male and female nurses would have different career trajectories even though they had the same origin occupation.

The sex related individual attributes that could explain differences in mobility pattern are numerous. There are a variety of personal constraints that operate differently on men and women, such as the constraint on geographical mobility for married women. There are differences in types of schooling and training acquired outside of the labor markets by men and women. Of particular interest are the differences in employment patterns (Barnes and Jones, 1974; Lopata, 1971; Palmer, 1954; Saben, 1967; Sweet, 1975). Some reasons for mobility differences due to employment patterns are suggested by Human Capital theory and the research on job search.

Human Capital theory suggests that when in the labor market a person receives returns on his/her human capital (i.e., productive skills, talents, and knowledge), and increases his/her stock of human capital as he/she receives on-the-job training, gains experience, etc. It is argued (Mincer and Polachek 1974) that persons expecting to be in the work force only sporadically will gain less human capital on the job as they would have less time to recover the costs of training. In addition those "known" to be in the labor force only sporadically might not be given training, if employers base their decision about training workers on the workers' expected turnover. There is some empirical support for the idea that differences between men and women in length and continuity of work experience account for some of the differences in occupational rewards as measured by earnings (Mincer and Polachek 1974, revised by Sandell and Shapiro, 1975). It is not unreasonable to suppose that differences in human capital acquisition in the labor market would also lead to differences in the ability of men and women to utilize mobility opportunities.

Research on how people learn about job opportunities suggests another connection between labor force participation and occupational mobility: those not employed may be less likely than those with jobs to learn about occupational opportunities. Parnes (1954), Ornstein and Rossi (1970), Granovetter (1974), and others have shown that most job information is obtained through personal contacts (e.g., from friends, relatives, and aquaintances). In his study of male professional, technical, and managerial workers, Granovetter found that those using personal contacts rather than impersonal channels of job information found better jobs (in terms of job satisfaction, income, and fit of the job to the individual's qualifications). Both

fellow workers and social acquaintances may pass along job information. Granovetter found that among personal contacts, work contacts predominated and resulted in better jobs. It seems reasonable that even among persons in occupational groups other than professional, technical, and managerial, the people known at work will be more attuned than purely social contacts to the sorts of other jobs a given person might be able to fill. Persons not currently employed who are stereotyped as not being part of the labor market (e.g., women and retired persons) might be especially limited in their ability to learn of job opportunities through personal contacts.

The 1970 Census provides information not only on occupational location of women and men in 1965 and 1970, but also on their employment status in the two years. This permits a direct analysis of the relation between labor force participation and occupational location.

In sum, this paper will perform two tasks. First, we will analyze the 1965-70 career mobility of men and women in order to determine to what extent differences in mobility patterns are caused by differences in the occupational distribution of men and women, rather than by sex related individual attributes. Second, an analysis of the impact of labor force participation on mobility will be carried out.

1. DATA AND ANALYSIS

To compare women's and men's occupational mobility, we will be using data from the 1970 Public Use Sample 1/100 (5 percent) state sample. Since most occupational mobility which results in status gains occurs rather early in work life -- at least for men (see Figure 1, Sørensen, 1975b) -- and since we wish to determine whether there are sex differences in such

Occupation Group	1970 3-digit Occupational Codes
1. Nurses, dietitians, therapists, teachers except college, university and adult education	074-076, 142-145
2. Other professional, technical, and kindred workers	001-073, 077-141, 146-196
3. Managers and administrators, except farm	201-46
4. Sales workers	260-296
5. File clerks, receptionists, secretaries, stenographers, typists	325, 364, 370-372, 376, 391
6. Other clerical and kindred workers	301-96, excluding 325, 364, 370-72, 376, 391
7. Crafts and kindred workers	401-586
8. Operatives	601-726
9. Laborers, except farm	740-796
10. Service workers, including private household workers	901-986
11. Farmers, farm managers, farm laborers	801-46
12. No occupation held	0, 991

Figure 1. Occupational classification.

occupational mobility, we selected from the data file records of persons who were between 20 and 31 (inclusive) and who had been out of school at least one but less than eleven years as of 1965. For most men, number of years out of school should be a good measure of labor force experience. This would not necessarily be true for women, given their employment patterns by age. A further criterion for selection ensured that persons in the sample had had some employment experience by 1970, regardless of how much or when: persons included were in the experienced civilian labor force or labor force reserves in 1970; thus persons who had never been employed between school and 1970 were excluded. To avoid confounding race and sex effects, we additionally restricted our sample to white respondents. The selection criteria, then, result in a sample of white, relatively young (mean age of 29 in 1970) men and women with some employment experience.[3]

In the 1970 Census, persons were asked about their occupations as of 1970 and about occupations held five years earlier. Using these questions, one can compare occupations held in April, 1965, with occupations held during the early months of 1970. Our analysis classifies these occupations into eleven categories. These categories generally follow the census groupings of three-digit occupational codes, but include two professional categories -- "nurses, dietitians, teachers etc." and "other professionals" -- and two clerical categories -- "secretaries, file clerks, receptionists," and "other clerical." It is thought that this recategorization best captures differences in occupational location of women and men given the number of sample cases available to distribute over the categories. In addition, the category of "no occupation" (which excludes "occupation not reported") is used to include those who did not hold occupations in 1965 and/or 1970. The occupational groupings used are displayed in Figure 1.

2. RESULTS

Women and Men Employed in 1965 and 1970

Table 1 presents the cross-classification of 1965 by 1970 occupational group by sex. Table 2 shows the probabilities of making different types of occupational moves from given 1965 occupational categories. Concentrating first on the parts of these tables relevant to persons employed in both 1965 and 1970, one sees expected differences by sex in distribution over 1965 and 1970 occupational categories. For example, women who are professionals tend to be elementary and secondary school teachers, nurses, therapists, and dietitians (i.e., in the first category), while men who are professionals tend to be in the "other" category. More generally, a large proportion (over 40 percent) of the women are in the two clerical categories on either date, while a similarly large proportion of the men are in the blue collar categories of crafts and operatives. The index of dissimilarity (Δ) between the sexes for the 1965 distributions over the eleven occupational categories is 55.3; for 1970, 55.8. In other words, over 50 percent of the women would have to change to another occupational category for their occupational distribution in either year to be the same as men's.

The patterns of occupational mobility over the five years bring about almost no change in the degree of occupational sex segregation. Women are relatively more likely than men to move from any 1965 category to a category in which women are especially likely to be found (e.g., nurse, teacher, related, and the clerical categories), while men are relatively more likely than women to move from their 1965 occupational location to a "male" occupational category (e.g., managerial, other professional, crafts, and operative). Comparing the movement from the managerial category (in

Table 1

Cross-classification of Category of Occupation Held in 1965 by Category of Occupation Held in 1970 by Sex: United States White Men and Women 20 to 31 Years of Age with Less than 11 Years Labor Force Exposure as of 1965*

1965 Occupation A.	1970 Occupation Men 1	2	3	4	5	6	7	8	9	10	11	12	Total
1. Nurses, teachers	1256	246	192	51	1	24	16	14	3	12	10	30	1855
2. Other professionals	84	7936	689	272	12	217	389	151	42	81	16	150	10,039
3. Managers and administrators	28	385	3897	508	18	252	305	247	45	118	21	71	5895
4. Sales workers	21	237	796	2733	12	190	263	227	47	83	10	81	4700
5. Secretarial, stenographic, related	0	19	15	8	73	25	12	6	2	4	0	11	175
6. Other clerical workers	38	512	530	297	63	2248	401	362	111	153	11	88	4814
7. Craftspeople	31	479	613	286	11	289	9509	1184	251	247	75	228	13,203
8. Operatives	26	434	434	365	23	412	2119	7626	508	351	111	309	12,718
9. Laborers	15	108	188	99	7	178	619	842	1111	144	31	144	3486
10. Service workers	20	125	128	96	8	103	274	278	95	1747	11	88	2973
11. Farm workers	4	33	44	21	0	32	142	225	79	42	1205	35	1862
12. No occupation held	275	2686	1033	849	57	1100	2998	2629	672	812	283	1092	14,486
Total	1798	13,200	8559	5585	285	5070	17,047	13,791	2966	3794	1784	2327	76,206

Table 1--Continued.

	Women												
B.	1	2	3	4	5	6	7	8	9	10	11	12	Total
1. Nurses, teachers	2894	179	40	31	53	84	3	17	4	59	3	1602	4969
2. Other professionals	78	1110	39	24	55	102	11	17	4	40	3	649	2132
3. Managers and administrators	17	42	305	29	59	81	12	10	0	21	0	237	813
4. Sales workers	25	30	58	365	82	123	12	51	7	55	2	578	1388
5. Secretarial, stenographic, related	57	142	106	110	3663	556	17	67	2	125	4	3288	8137
6. Other clerical workers	53	173	125	140	788	3241	35	143	14	171	5	3093	7981
7. Craftspeople	1	13	10	9	6	29	201	60	1	14	0	144	488
8. Operatives	13	40	28	69	98	201	82	1944	36	161	9	1454	4135
9. Laborers	1	4	1	7	10	15	11	37	48	10	0	65	209
10. Service workers	45	49	33	83	119	214	14	207	12	1740	5	1601	4122
11. Farm workers	1	1	0	3	1	6	2	13	1	7	71	44	150
12. No occupation held	1622	1110	379	1445	2222	3588	282	2512	184	2977	117	21,702	38,140
Total	4807	2893	1124	2315	7156	8240	682	5078	313	5380	219	34,457	72,664

*Data are from the 5% Public Use Sample of Basic Records from the 1970 Census.

Table 2

Outflow Probabilities from Category of Occupation Held in 1965 to that of Occupation Held in 1970 by Sex: White Men and Women 20 to 31 Years of Age with Less than 11 Years of Labor Force Exposure as of 1965* (United States)

1965 Occupation A.	1970 Occupation Men 1	2	3	4	5	6	7	8	9	10	11	12	Total**
1. Nurses, teachers	.677	.133	.104	.027	.000	.013	.009	.008	.002	.006	.005	.016	1.000
	.688	.135	.105	.028	.001	.013	.009	.008	.002	.007	.005		1.001
2. Other professionals	.008	.791	.069	.027	.001	.022	.039	.015	.004	.008	.002	.015	1.001
	.008	.803	.070	.028	.001	.022	.039	.015	.004	.008	.002		1.000
3. Managers and administrators	.005	.065	.661	.086	.003	.043	.052	.042	.008	.020	.004	.012	1.001
	.005	.066	.669	.087	.003	.043	.052	.042	.008	.020	.004		.999
4. Sales workers	.005	.050	.169	.581	.003	.040	.056	.048	.010	.018	.002	.017	.999
	.005	.051	.172	.592	.003	.041	.057	.049	.010	.018	.002		1.000
5. Secretarial, stenographic, related	0	.109	.086	.046	.417	.143	.069	.034	.011	.023	0	.063	1.001
	0	.116	.091	.049	.445	.152	.073	.037	.012	.024	0		.999
6. Other clerical workers	.008	.106	.110	.062	.013	.467	.083	.075	.023	.032	.002	.018	.999
	.008	.108	.112	.063	.013	.476	.085	.077	.023	.032	.002		.999
7. Craftspeople	.002	.036	.046	.022	.001	.022	.720	.090	.019	.019	.006	.017	1.000
	.002	.037	.047	.022	.001	.022	.733	.091	.019	.019	.006		.999
8. Operatives	.002	.034	.034	.029	.002	.032	.167	.600	.040	.028	.009	.024	1.001
	.002	.035	.035	.029	.002	.033	.171	.615	.041	.028	.009		1.000
9. Laborers	.004	.031	.054	.028	.002	.051	.178	.242	.319	.041	.009	.041	1.000
	.004	.032	.056	.030	.002	.053	.185	.252	.332	.043	.009		.998
10. Service workers	.007	.042	.043	.032	.003	.035	.092	.094	.032	.588	.004	.030	1.002
	.007	.043	.044	.033	.003	.036	.095	.096	.033	.606	.004		1.000
11. Farm workers	.002	.018	.024	.011	0	.017	.076	.121	.042	.023	.647	.019	1.000
	.002	.018	.024	.011	0	.018	.078	.123	.043	.023	.660		1.000
12. No occupation held	.019	.185	.071	.059	.004	.076	.207	.181	.046	.056	.020	.075	.999

Table 2--Continued.

B.	1	2	3	4	5	6	7	8	9	10	11	12	Total**
					Women								
1. Nurses, teachers	.582	.036	.008	.006	.011	.017	.001	.003	.001	.012	.001	.322	1.000
	.860	.053	.012	.009	.016	.025	.001	.005	.001	.017	.001		1.000
2. Other professionals	.037	.521	.018	.011	.026	.048	.005	.008	.002	.019	.001	.304	1.000
	.053	.748	.026	.016	.037	.069	.007	.011	.003	.027	.002		.999
3. Managers and administrators	.021	.052	.375	.036	.072	.100	.015	.012	0	.026	0	.292	1.001
	.030	.073	.530	.050	.102	.141	.021	.017	0	.036	0		1.000
4. Sales workers	.018	.022	.042	.263	.059	.089	.009	.037	.005	.040	.001	.416	1.001
	.031	.037	.072	.451	.101	.152	.015	.063	.009	.068	.002		1.001
5. Secretarial, stenographic, related	.007	.017	.013	.014	.450	.068	.002	.008	.000	.015	.000	.404	.998
	.012	.029	.022	.023	.755	.115	.004	.014	.000	.026	.001		1.001
6. Other clerical workers	.007	.022	.016	.018	.099	.406	.004	.018	.002	.021	.001	.388	1.002
	.011	.035	.026	.029	.161	.663	.007	.029	.003	.035	.001		1.000
7. Craftspeople	.002	.027	.020	.018	.012	.059	.412	.123	.002	.029	0	.295	.999
	.003	.038	.029	.026	.017	.084	.584	.174	.003	.041	0		.999
8. Operatives	.003	.010	.007	.017	.024	.049	.020	.470	.009	.039	.002	.352	1.002
	.005	.015	.010	.026	.037	.075	.031	.725	.013	.060	.003		1.000
9. Laborers	.005	.019	.005	.033	.048	.072	.053	.177	.230	.048	0	.311	1.001
	.007	.028	.007	.049	.070	.104	.076	.257	.333	.070	0		1.000
10. Service workers	.011	.012	.008	.020	.029	.052	.003	.050	.003	.422	.001	.388	.999
	.018	.019	.013	.033	.047	.085	.006	.082	.005	.690	.002		1.000
11. Farm workers	.007	.007	0	.020	.007	.040	.013	.087	.007	.047	.473	.293	1.001
	.009	.009	0	.028	.009	.057	.019	.123	.009	.066	.670		.999
12. No occupation held	.043	.029	.010	.038	.058	.094	.007	.066	.005	.078	.003	.569	1.000

* Top line within 1965 occupational category includes "no occupation" in total upon which probabilities are based. Bottom line does not.

** Totals differ from 1.00 because of rounding.

which males predominate in 1965 and 1970), for example, one finds that men are relatively more likely than women to reamin in that category or to go to the operative or crafts categories, while women are relatively more likely than men to have moved from the managerial category to the "female" professions or the clerical categories.

In Table 3A(1), the outflow probabilities from each 1965 occupational category are compared by sex. Although these differences vary by 1965 occupational groups, on the average about 20 percent of the women would have to show different occupational mobility probabilities for men and women to have the same outflows. These patterns of mobility reflect that at any particular time there is considerable difference in the occupational locations open to (and/or sought by) men and women. How much do these differences in outflow probabilities depend on the differences in marginal distributions?

One method for answering this question is to perform an adjustment of the women's 11 by 11 occupational mobility table to the marginals for men holding occupations in 1965 and 1970, leaving the association between 1965 and 1970 occupation unchanged. It can be shown (Sørensen, 1975a) that this procedure amounts to using the sizes of the origin and destination occupations as measures of the parameters b_i and c_j of equation (1), and then specifying the function f as additive in the three structural forces b_i, c_j, and d_{ij}.

In Table 4A one can see the result of this adjustment procedure. The probabilities in Table 4 are those one would see if the distributions of working women across occupational categories in 1965 and

Table 3

Indexes of Dissimilarity Between Men and Women in Outflow Probabilities from 1965 to 1970 Occupational Category

A. Comparing Outflow to 11 Occupational Categories, Excluding "No Occupation Held"

1965 occupational category	(1) From observed mobility tables	(2) From men's observed mobility table and women's mobility table adjusted to marginals of men's table
Nurses, teachers	20.92	7.07
Other professionals	14.60	5.18
Managers and administrators	24.44	12.11
Sales workers	29.97	4.11
Secretarial, stenographic, related	32.43	31.23
Other clerical workers	34,07	8.16
Craftspeople	18.90	10.81
Operatives	22.15	9.66
Laborers	17.20	18.58
Service workers (Incl. domestic)	18.92	9.13
Farm workers	12.59	11.93
Average index of dissimilarity (weighted by men's 1965 occupational distribution)	21.18	9.31

B. Comparing Outflow to all 12 Categories

1965 occupational category	(1) From observed mobility tables	(2) From men's observed mobility table and women's mobility table adjusted to marginals of men's table
Nurses, teachers	32.57	14.64
Other professionals	37.92	6.70

Table 3--continued.

1965 occupational category	(1) From observed mobility tables	(2) From men's observed mobility table and women's mobility table adjusted to marginals of men's table
Managers and administrators	42.78	12.44
Sales workers	53.94	9.44
Secretarial, stenographic, related	38.17	31.53
Other clerical workers	45.49	5.89
Craftspeople	37.01	15.11
Operatives	37.79	7.28
Laborers	34.84	22.75
Service workers (Incl. domestic)	40.64	14.60
Farm workers	34.14	12.50
No occupation held	61.16	16.24
Average index of dissimilarity (weighted by men's 1965 occupational distribution)	43.72	12.06

Table 4

Outflow Probabilities from 1965 Occupational Category to 1970 Occupational Category: Based on Women's Mobility Table Adjusted to Marginals of Men's Table

1965 Occupation A.	1970 Occupation 1	2	3	4	5	6	7	8	9	10	11	12	Total
1. Nurses, teachers	.660	.170	.067	.031	.002	.022	.007	.010	.005	.022	.003		.999
2. Other professionals	.014	.844	.053	.019	.002	.021	.021	.008	.004	.012	.002		1.000
3. Managers and administrators	.006	.061	.789	.044	.003	.033	.043	.009	0	.012	0		1.000
4. Sales workers	.009	.046	.158	.581	.005	.052	.046	.050	.016	.033	.003		.999
5. Secretarial, stenographic, related	.012	.158	.206	.127	.164	.170	.048	.048	.006	.055	.006		1.000
6. Other clerical workers	.007	.099	.127	.083	.018	.512	.050	.052	.012	.038	.003		1.001
7. Craftspeople	.000	.022	.030	.016	.000	.014	.841	.065	.002	.009	.000		.999
8. Operatives	.002	.022	.028	.040	.002	.031	.113	.694	.029	.035	.005		1.001
9. Laborers	.002	.028	.013	.051	.003	.029	.190	.166	.492	.027	0		1.001
10. Service workers	.009	.043	.052	.076	.004	.052	.030	.117	.016	.596	.004		.999
11. Farm workers	.003	.010	0	.033	.001	.018	.053	.089	.015	.029	.750		1.001
B.													
1. Nurses, teachers	.566	.213	.073	.025	.002	.022	.010	.012	.007	.018	.004	.050	1.002
2. Other professionals	.010	.855	.046	.012	.001	.017	.024	.008	.004	.008	.002	.013	1.000
3. Managers and administrators	.005	.070	.775	.032	.003	.029	.057	.010	0	.009	0	.010	1.000

Table 4--Continued.

1965 Occupation B.	1	2	3	4	5	6	7	8	9	10	11	12	Total
4. Sales workers	.008	.060	.177	.487	.004	.053	.068	.059	.020	.028	.004	.030	.998
5. Secretarial, stenographic, related	.011	.176	.199	.091	.119	.148	.057	.045	.006	.040	.006	.102	1.000
6. Other clerical workers	.006	.114	.125	.061	.014	.462	.065	.055	.013	.028	.003	.053	.999
7. Craftspeople	.000	.020	.023	.009	.000	.010	.871	.053	.002	.005	0	.006	.999
8. Operatives	.001	.024	.025	.027	.001	.026	.139	.672	.031	.024	.005	.023	.998
9. Laborers	.001	.028	.011	.033	.002	.023	.223	.153	.496	.018	0	.012	1.000
10. Service workers	.008	.056	.058	.064	.004	.053	.046	.138	.020	.500	.006	.048	1.001
11. Farm workers	.002	.011	0	.021	.001	.014	.062	.082	.016	.019	.761	.012	1.001
12. No occupation held	.035	.144	.075	.125	.008	.101	.104	.189	.035	.097	.015	.073	1.001

1970 were the same as those for men. With the adjustment, the women's outflow from 1965 occupational categories across 1970 occupational categories still differs from that for men, although the differences are quite a bit less than before the adjustment. Table 3A(2) shows the indexes of dissimilarity between the outflows in the observed mobility table for men and the outflows in the adjusted table for women. With the adjustment for sex differences in marginal distributions, less than 10 percent of the women, on the average, would need to move differently across occupational categories for women and men to have the same mobility patterns. The reduction in difference varies by categories.[4] For example, controlling for marginal distributions, there are still some differences in the ways women and men move from the managerial category. If the occupational structure were such that women were as likely as men to be managers and administrators, women would be more likely than men to be in this occupational category at both the beginning and end of a five year period. Much, although not all, of the difference in the occupational mobility patterns of young, white men and women seems, however, to reflect differences in occupational distributions by sex rather than differences in the chances for making certain moves, controlling for differences in occupational location at either time.

Table 5 supplements the above descriptive analysis with statistical tests of hypotheses about the occupational mobility process by sex. The models indicate which marginals have been fitted, and the chi-square value indicates the degree to which a model fits the data. The smaller the chi-square value, the better the fit between observed frequencies and those estimated using only the distributions included in the model. The index of dissimilarity (Δ) of Table 5 gives another measure of the fit between

Table 5

Models of Occupational Mobility by Sex from Occupation Category Held in 1965 to that Held in 1970

Model	χ^2_{LR}	df	p	Λ
A. Including only those holding an occupation in 1965 and 1970. N = 82,254				
1. $[O_1]$ $[O_2]$ $[S]$*	198,281.14	220	.000	59.04
2. $[O_1\ O_2]$ $[S]$	35,308.96	120	.000	23.41
3. $[O_1S]$ $[O_2\ S]$	139,487.55	200	.000	52.86
4. $[O_1S]$ $[O_2S]$ $[O_1O_2]$	526.75	100	.000	1.59
5. A2 vs A1	162,972.18	100	.000	
6. A3 vs A1	58,793.59	20	.000	
B. Including those in 1965 and/or 1970 occupational category "No Occupation Held". N = 148,870				
1. $[O_1]$ $[O_2]$ $[S]$	291,056.39	264	.000	52.14
2. $[O_1O_2]$ $[S]$	100,907.08	143	.000	34.58
3. $[O_1S]$ $[O_2S]$	145,644.62	242	.000	33.26
4. $[O_1S]$ $[O_2S]$ $[O_1O_2]$	1,665.34	121	.000	2.68
5. A4 vs B4	1,138.59	21	.000	

*O_1 = 1965 occupational category

O_2 = 1970 occupational category

S = Sex

observed frequencies and those expected under a model. Panel A presents the results of tests of models using the 11 x 11 x 2 classification of the 1965 occupation by 1970 occupation by sex for those holding occupations in both years.

The model of particular interest here is model 4. This model hypothesizes that the 1965 and the 1970 occupational distributions differ by sex (i.e., the distributions by sex for each year are fitted exactly), that 1965 occupational category is associated with 1970 occupational category (i.e., the table of 1965 x 1970 occupational categories collapsed over sex is fitted exactly), but not that the process of moving between categories varies by sex. Again this amounts to a specification of equation (1) so that all variation in mobility patterns is caused by variation in the structural parameters. Because of the large sample size, the frequencies expected under this model differ significantly from those actually observed, but the difference is very small. Only 1.6 percent of the cases are misclassified under this model. The conclusion from Table 5A is consistent with that from comparing observed and adjusted mobility tables. When one controls for sex differences in occupational location at a given time, one finds only small differences by sex in the way people move between (or remain within) occupational categories.

Comparison of status attainment models for women and for men have led to the conclusion that occupational status is determined in approximately the same way for white men and women. Such research does not control for the fact that although the status hierarchies for men and women are similar, the occupational structures underlying the status hierarchies are not. This research also has not tried to determine whether there are differences in movement between occupational levels as opposed to attainment of level occupied at some given time. The results in this section suggest that when one does look directly at occupational mobility, one does not find large differences

in the association between early and later occupations, controlling for differences in occupational distributions by sex.

Including Those Without an Occupation, 1965 and/or 1970

The above conclusions result from consideration of only part of the mobility tables in Table 1. We focused on the mobility of those holding occupations in both 1965 and 1970. An analysis of employed women is limited. As mentioned above, change in labor force status is an important characteristic of women's work histories. Table 1 does include the category of "no occupation held" for both 1965 and 1970. The meaning of this category varies by sex. For a woman, it is likely to reflect her situation as a worker within the home. For men, it would be more likely to reflect time spent in the armed forces or a period of involuntary unemployment. For either men or women (though more often for men), being in the category "no occupation held" could also reflect absence from the labor force to gain further education or training.[5]

Looking again at Table 1 we can see that there is a great difference in the employment patterns of women and men. Of all the women in the experienced civilian labor force or labor reserves in 1970 who had at most 10 years of labor force exposure in 1965, 52.5 percent did not hold an occupation in 1965, compared with about 19.0 percent of the men. The percentages for 1970 distributions are 47.4 percent and 3.0 percent, respectively for women and men. Furthermore, the number of women who are not in an occupational category in either year is much greater than the number of men out both times. These facts are not surprising. They are consistent with what is known about the labor force behavior of men and women. Still, for both men and women there is mobility to and from the category of "no occupation held."

Is there a difference in mobility patterns between 1965 and 1970 occupations when mobility into and out of the occupational structure is considered? The descriptive and statistical analysis performed on the 11 x 11 x 2 table of mobility within the occupational structure is repeated for the full 12 x 12 x 2 matrix and the results shown in panel B of tables 3, 4, and 5.

In tables 3B and 4B one can see that, again, when the marginals for the women's cross-classification of 1965 x 1970 occupational category are adjusted to equal men's, differences in outflow probabilities by sex are greatly decreased.[6] And again, in Table 5B, one can see that a model which does not include an interaction of sex with occupational mobility (model 4) produces expected values which differ significantly but trivially from those actually observed. Only 3 percent of the cases in the table are misclassified under this model. Comparing results from model 4A with those from model 4B (see line 5B), though, one finds that there are significant differences in the ways men and women move in and out of the labor force. In particular, controlling for marginals by sex and for the association between 1965 and 1970 occupations, men are significantly less likely than women to move out of the labor force from the categories of nurses and teachers and "clerical other than secretarial," and more likely to leave from the laborer category. Men are significantly more likely than women to go from nonemployment in 1965 to the professions other than nursing and teaching, and to the crafts category by 1970 (perhaps because their 1965 nonemployment represented their participation in educational or training programs), and less likely than women to go to sales and service occupations.[7]

Young women tend to leave the labor force, to a greater extent than men do, from occupations which require some education or special training but which are stereotyped as "female." It may be that women prepare for

these occupations with the assumption that they can return to them after periods out of the labor force because of full-time home responsibilities. Men going into these occupations may see them as beginnings of a career. For example, a man may become a school teacher planning to eventually become a school administrator. Young women are more likely than men to go from nonemployment to occupations which require relatively little skill or training. Young women not employed in 1965 (even though they had spent some years out of school by then) who were employed in 1970 may tend to be women who have not developed many employable skills, but who for some reason needed to find employment outside the home and therefore end up with easily obtained, low skill jobs. Men with relatively little skill or education may have entered such occupations by 1965 and remained in them or moved up within the occupational hierarchy as a result of on-the-job training and experience.

3. CONCLUSION

We seem to have reached conclusions very similar to that of Hauser, Featherman, and Hogan (1974:19) about sex differences in intergenerational mobility:

> Women differ greatly from men in their propensity to be in the labor force and in their occupations, if they are in the labor force. Yet once these factors are taken into account, more than 90 percent of the association between occupations of persons and their fathers may be explained by a mobility regime which does not differ at all between the sexes.

In the case of intragenerational occupational mobility we found that much of the association between location within the occupational structure in 1965 and 1970 can be explained by a mobility regime which differs little by sex. However, patterns of mobility into and out of the labor force did vary by sex, even taking into account differences between men and women in their work patterns.

These conclusions are essentially the result of investigating a hypothetical occupational structure, one in which men and women filled occupational positions at any time in equal proportions. The rationale for this procedure was provided by a conception of mobility where moves are seen as generated partly by structural forces associated with the origin and destination occupations, and partly by individual characteristics relevant for mobility. The hypothetical occupational structure eliminates the differential impact of the structural sources of mobility on men and women due to the occupational segregation of the sexes. Since much of the difference in actual occupational mobility patterns by sex is due to the discrepancy between this hypothetical occupational structure and the observed one, i.e., due to sex differences in marginal distributions over occupational categories, the questions of why the occupational distributions differ by sex and whether men and women have equal access to occupational opportunities become especially important to investigate.

Even controlling for differences in occupational location, we found sex differences in movement into and out of the labor force over a five year period. This type of movement is especially characteristic of women's work histories and, as argued earlier, may be related to the types of occupations women hold and the monetary and opportunity rewards they receive within them. The lack of sex differences in occupational mobility patterns (net of sex differences in marginals) and in the status attainment process combined with sex differences is one type of mobility especially typical of women's experience, suggesting the need to go beyond simple male/female comparisons to investigation of the aspects peculiar to women's life situations which affect their experience when they are within the occupational structure.

NOTES

[1]See Deming, (1943). See also Hauser et al., (1975) for a similar use of the technique.

[2]See Goodman (1972a, 1972b, 1973) for further explanation of these models.

[3]The restriction on number of years out of school as of 1965 (calculated by subtracting highest grade attended less 6 from age as of 1965) might be thought to affect the educational characteristics of the sample. Those who had very little schooling, despite compulsory school attendance laws, or who were still in school in their late 20's and early 30's would not be included. If anything, persons in this sample have slightly more schooling than their cohort generally (although an exact comparison was not possible): 42 percent of the men and 53 percent of the women in the sample had attended high school; 41 percent of the men and 32 percent of the women had some schooling beyond high school. Using data from a U.S. census subject report (1972) on years of school completed, we found that 38 percent of white men 25 to 34 years old in 1970 had completed high school, while 36 percent had completed more schooling. Of white women in this cohort, 47 percent had completed 12 years of school and 27 percent had completed more.

[4]When looking at the indexes of dissimilarity by occupational category, note that Δ is large when sampling variability is large in one or both of the distributions as well as when the distributions actually differ. See Appendix A in Taeuber and Taeuber (1965) for further description of the index of dissimilarity.

[5]Twenty-six percent of the women not employed in 1970 had last been employed before 1964. Another 34 percent had last worked outside the home sometime between 1964 and 1967. In contrast, over 80 percent of the males not employed in 1970 had been employed sometime during the previous two years. Women tend to be nonemployed at a particular date because they are engaged full-time in the occupation of housewife and tend to be out of the labor force for longer periods of time than men. More men than women had been without an occupation in 1965 because of service in the armed forces or college attendance. Five years ago (as of 1970) 8,296 of the men reported that they had been in the armed forces, compared with 162 of the women, and 5,234 of the men (compared with 1,845 of the women) reported that they had been attending college.

Since the 1970 occupations held represent those held sometime during a year rather than during a specific week or month, the 1970 category "no occupation held" should not indicate seasonal unemployment, as in the construction industry. Some of the cases of 1965 "no occupation held" might reflect seasonal unemployment.

[6]One can compare columns 1 and 2 within but not between panels A and B, since Δ depends on the number of categories in the distributions compared.

[7]These conclusions come from an examination of the interaction effects estimated under the model $[O_1O_2S]$ for the 12 x 12 x 2 table (not shown). These conclusions are consistent with those reached by comparing the probabilities for men in Table 2 and those for women in Table 4B. There were significant sex interaction effects for 22 of the 144 cells in the table. Eight of these significant effects were in the 23 outside cells.

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